

REMARKS

In the August 7, 2007 Office Action, all of the claims stand rejected in view of prior art. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the August 7, 2007 Office Action, Applicant has amended the claims as indicated above. Thus, claims 19-25 and 27-32 are pending, with claims 23, 29, 31 and 33 being the independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of the above amendments and the following comments.

Rejections - 35 U.S.C. § 102

The examiner rejected claims 20, 22-25 and 27 under 35 U.S.C. §102(b) as being anticipated by International Patent Application No. WO 00/10756 (Celik et al). On page 3 of the Office Action, claims 19-25 and 27 stand rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent Application Publication No. 2003/0115986 (Pozarnsky et al). These rejections are moot, especially in light of the amendments to independent claim 23. Nor are new claims 28-33 anticipated either.

Independent claim 23, as amended, recites that a first portion of the silver nano-particle material is formed in the mixing region inside the furnace and a second portion of the silver nano-particle material is formed in the conduit. This method is *not* disclosed or suggested by Celik et al, Pozarnsky et al or any other prior art of record. It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose each and every element of the claim within the reference.

Celik et al discloses a plasma reactor 12 with a plasma chamber 17. Referring to page 16, lines 3-6, a gas is injected into the chamber 17 to transport the vapor from the chamber 17

into a quench tube 14. **Powder condensation occurs inside the quench tube 14.** Moreover,

Celik et al states at page 14, lines 15-19:

It is important that the reactor be well insulated to maximize energy efficiency and yield, and also to minimize the condensation of the material vaporized or decomposed within the chamber, ***thus preventing particle formation therein.*** The vapor is transported from the plasma chamber to a quench tube wherein the particles are grown, and ultimately condensed. (emphasis added)

Accordingly, Celik et al teaches preventing particle formation in the chamber 17. Thus, Celik et al does not disclose at least a first portion of silver nano-particle material in the mixing region in the furnace, as required by claim 23.

Pozarnsky et al discloses a furnace 12 having a crucible 14 containing vaporizable metal 16. Non-reactive gas 19 assists in the formation of fine particles 20. The fine particles 20 are transported through a transfer tube 22. Referring to paragraphs [0097] and [0099] of Pozarnsky et al, the fine particles 20 are formed before their transportation through the transfer tube 22. Thus, fine particles 20 are formed in the furnace 12 and ***not*** in the transfer tube 22.

Therefore, Pozarnsky et al does ***not*** disclose the process gas cooling the vaporized precursor material to precipitate at least a second portion of the silver nano-particle material in a carrier stream in the conduit, as required by claim 23.

Therefore, Applicant respectfully submits that claim 23, as now amended, is not anticipated by the prior art of record. Withdrawal of this rejection is respectfully requested.

Applicant believes that dependent claims 19-22, 24, 25 and 27 are also allowable over the prior art of record in that they depend from independent claim 23, and therefore are allowable for the reasons stated above. Also, the dependent claims are further allowable because they include

additional limitations. Thus, Applicant believes that since the prior art of record does not anticipate independent claim 23, neither does the prior art anticipate the dependent claims.

Applicant respectfully requests withdrawal of the rejections.

New Claims

New claims 28-33 are added by this amendment. Applicant respectfully asserts that no new matter is added by this amendment. Support for the new claims can be found at, for example, Figure 1 and pages 18 and 20 of the specification. Applicant respectfully submits that new claims 28-33 are not disclosed or suggested by the prior art of record. Specifically, Celik et al does not disclose or suggest an inlet end having a hood-like portion, as required by new independent claim 29. Independent claim 29 requires discharging the carrier stream from an outlet of the conduit into a non-liquid medium. This is not disclosed or suggested by Pozarnsky et al since the transported metal particles 20 bubble into a liquid dispersing medium 26. Finally, Celik et al or Pozarnsky et al do not disclose or suggest defining a mixing region with the crucible and a hood-like portion formed from *a portion* of an inlet end of a conduit, as required by new independent claim 33.

Appl. No. 10/780,239
Amendment dated November 5, 2007
Reply to Office Action of August 7, 2007

Conclusion

In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 19-25 and 27-33 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,


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